Child Survival XI

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Yemen

Final Evaluation

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CHILD SURVIVAL XI
ADRA/Yemen
FINAL EVALUATION

(Project #FAO-0500-A-00-5025-00)

Hais, Khokha and Jabal Ras Districts
Hodeidah Governorate
Republic of Yemen

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APPENDICES

ACRONYMS

ADRA/HQ	Adventist Development and Relief Agency Headquarters
ALRI	Acute Lower Respiratory Infection
BCG	Tuberculosis Vaccine
CDC	Community Development Coordinator
CDD	Control of Diarrheal Disease
CS	Child Survival
CS/DRF	Cost Sharing and Drug Revolving Fund Program
DHMT	District Health Management Team
DHS	District Health System
DIP	Detailed Implementation Plan
DPT	Diptheria, Pertussis and Tetanus
EOP	End of Project
EPI	Expanded Program of Immunizations
FGD	Focus Group Discussion
GM	Growth Monitoring
HC	Health Center
HFC	Health Facility Committee (=Local Development Committee)
HHC	Hais Health Center
HIHS	High Institute of Health Services
HIS	Health Information System
HSR	Health Sector Reform
HU	Health Unit
HW	Health Worker
LDC	Local Development Committee (=Health Facility Committee)
MCH	Maternal and Child Health
MoPH	Ministry of Public Health
MoSA	Ministry of Social Affairs
Murshidaat	Female Health Worker
NGO	Non-governmental Organization
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Solution
PHCS	Primary Health Care Services
SCM	Standard Case Management
STG	Standard Treatment Guidelines
TT	Tetanus Toxoid
USAID	United States Agency for International Development
WCBA	Women of Child-bearing Age
WL/SED	Women's Literacy and Small Enterprise Development

A. EXECUTIVE SUMMARY

The final evaluation of the ADRA/Yemen Child Survival (CS) Project took place between September 12 and October 31, 1999. The project is located in the southernmost part of the Hodeidah Governorate and covers the three underserved districts of Hais, Khokha and Jabal Ras with an estimated population of 120,000.

The final evaluation results were generally positive. The project components have adopted a community-based approach, that empowers the local communities and aims to improve the primary health care services (PHCS) integrated with the existing governmental health facilities.

The final evaluation team found that the ADRA/Yemen project components, more or less, match the priority health issues stated in two of the Ministry of Public Health's (MoPH) national health documents: *Policies and Health Strategies for Development* (1994) and *Health Sector Reform in Yemen* (1999). The implementation of the two main concepts of the ADRA project have to be considered "on the cutting edge of experimentation" with community-based objectives, strategies and activities. These model concepts are:

1. to place emphasis on sustainability of positive outcomes.
2. to integrate with the district health system and build links between them and the communities developing self-reliance.

The ADRA project has targeted both the local community men and women in ways suitable to their culture, customs and attitudes and also in the approaches that empower community entities such as women's groups and health facility committees (HFC).

ADRA's training programs have helped the communities to create their own experiences and build their self-confidence. They can now articulate their problems and research possible options for solutions. They have the capability to build a sustainable organization. Through this approach and formation of women's groups they are now actively engaged in literacy, health education and small enterprise development. Field visits and interviews with members of women's groups, revealed that women participate enthusiastically in the implementation of all interventions introduced in their communities. These women who previously had no independent channels from which to play their role of improving their families' health status are now participating in raising living standards of their own family members. Women's groups are almost capable of managing their own literacy classes, health education and loans but continue to receive supervision and support services from ADRA.

Community organization of men is in the form of local health facility committees (HFC). The main duties of HFCs are planning, support and monitoring of the health activities of the health workers (HW) within the health units (HU) and in their catchment areas, vital events, health information system (HIS), organization of vaccination campaigns, recruitment of the students to be trained in health or as volunteers. The effectiveness of these HFCs accelerated during the second half of project implementation. The interventions became an interest of the HFCs after ADRA appropriately responded to

their felt need for drug supplies at HUs. The introduction of this component was vital in overcoming the chronic shortage of drugs and supplies in the HUs. The Cost Sharing/Drug Revolving Fund (CS/DRF) program also became a source of co-financing for the HUs. This strategy or component has encouraged HFCs to participate in decisions relating to the health facilities in their areas. The members of HFCs are actively involved in the management of the CS/DRF program. The project intentionally linked the CS/DRF project to the implementation of the main CS interventions. Since the CS/DRF project was introduced, the pace of HFC formation and their level of activities has significantly increased. At present there are 14 active HFCs representing about 30% of the targeted population. Nine of these are participating in the CS/DRF project. Eight of the HFCs have completely renovated their HUs or are involved in the construction of new ones.

The final evaluation team judges the project design and strategies to have a high potential for sustainability within the context of Yemen. In regard to financial, planning, organizational and management issues, the targeted components began to take on an effective role in co-financing, supervision, upgrading and management of PHCSs. With regards to the current salary level for CHWs, for the future, the local community should be able to assume responsibility for their salaries at the end of the project.

The project's concentration on the transfer of various skills to the local community also increase the possibility of sustainability. The project encourages the community entities to devise their own solutions to their problems. This increases the sense of ownership by the local community.

ADRA has only limited control over the sustainability of the District Health System (DHS) because the national health policies determine, to a great extent, the financial and managerial potential at the district level. The sustainability of PHCSs and the functions of the DHS should be encouraged by:

1. Emphasis on the cost-effectiveness of basic intervention strategies for the community.
2. On-the-job training and refresher courses for HWs and community health volunteers.
3. Support and assistance to the community and health manpower development from the higher MoPH authorities.
4. Capacity building of the local management.

Despite the appropriate development of the Detailed Implementation Plan (DIP), management and successful implementation of most components, the project staff faced many difficulties and constraints. However, the ADRA project succeeded in overcoming these difficulties and constraints by taking various actions:

1. Effective mobilization, involvement and utilization of local community activities.
2. Prioritization of community development components such as community organization, literacy and loan programs over the main project interventions.
3. Continuous training schedule and educational sessions to increase the capabilities of the local human resources to manage and depend on itself.

4. Fund raising approach helped make cost sharing, vitamin A, literacy, loans and the laboratory upgrade possible. Such supplementary activities have facilitated and accelerated the implementation of the main project interventions and community development components.
5. Effective transfer of the local management to the HFCs to revive the local health facilities, improved the PHCSs and increased the accessibility to the catchment areas of the HFs. It also enabled the community entities to play their roles and tasks in implementation of both community development and CS intervention components.

From the above mentioned actions and approaches ADRA was able to meet most of the goals and objectives.

In its next round of funding, ADRA should give high consideration to the following areas:

1. Upgrading the current activities and coordination between the ADRA project, local health authorities and community entities. Such joined actions should be implemented under the guidance and monitoring of ADRA and the local non-governmental organization (NGO).
2. Continue implementation of community entities (particularly women's groups and HFCs), fund raising for local community development and health promotion and capacity building of the local NGO.
3. Integrate new primary health care interventions of M/NC, malaria control and acute lower respiratory infections (ALRI).
4. Explore new areas and expand collaboration between project components and maintain the community midwife training program. Training components are promising for sustainability of community health and development, especially in the areas of PHCSs, local manpower development, local management capabilities and community self-reliance.

B. EVALUATION METHODOLOGY

Objectives

The objectives of this evaluation are to 1) assess if the program met the stated goals and objectives; 2) assess the effectiveness of the technical approach; 3) assess the beneficiaries competence and prospects of continuing sustainable and effective community interventions on its own in the foreseeable future; and 4) report the development of the dominant lessons learned, whether positive or negative, from the program. Furthermore, it should determine the strategy to be used for communication of these lessons both within the organization and to partners.

Methodology

The team was assembled by the ADRA/Yemen Country Director (Appendix A). The Country Director and Evaluation Team Leader worked together to design the evaluation schedule (Appendix A). The Team Leader reviewed the proper guidelines as found in the Scope of Work for Child Survival XI – Yemen (Appendix C) and the USAID Guidelines for Final Evaluation. In accordance with these guidelines the evaluation methodology consisted of a review of relevant documents including the baseline survey report, mid-term evaluation report, quarterly and annual reports and the ADRA manual. Discussions were held with the ADRA team at all levels, key local governorate personnel and local and national partners. Field visits were made to observe and speak with key health staff, community members and health committees. The evaluation team examined outputs such as training materials and relevant statistical data. The process was participatory, with ADRA staff included in all evaluation activities.

Field visits took place between September 15 and 21. Selection of field visit sites was random but according to geographical regions (meaning districts). A list of field sites can be found in Appendix D.

Five main variables for field study visits were selected. These are: 1) health workers, 2) health supervisor, 3) cost sharing and drug revolving fund program, 4) health facility committees and 5) women's groups. Lists of each of these variables were numbered and then a person who didn't know the listing picked numbers randomly.

- 8 HWs were selected from a list of 32 HWs.
- 4 supervisors were selected from a list of 9 supervisors.
- 5 HUs participating in the CS/DRF program were selected from a list of 11 participants.
- 5 HFCs were selected from a list of 14 HFCs.
- 7 WGs were selected from a list of 74 WGs.

The evaluation team was divided into groups and each group allocated the assignment of studying a specific variable. Each group then developed their own evaluation tools (i.e., surveys, focus group discussion guides, tables, questionnaires, interviews, etc.). These were discussed and modified as a team.

Women's Group Investigations

In regards to the women's groups, team members decided that focus group discussions (FGD) would be the best method to use for this variable in order to be able to:

- Learn about the women's reactions and ideas to the messages they received in their training,
- Probe beyond their initial response to the questions,
- Search for reasons behind their attitudes or practices towards certain activities related to health in the areas of nutrition, CDD, EPI and vitamin A
- Obtain ideas regarding women's preferences for future development activities and better approaches of the current or future activities.

An unstructured survey was prepared with the aim of conducting a qualitative type of research.

Inspite of the advantages of focus group discussion in obtaining insights of the groups and assessing their views, attitudes and knowledge, limitations of this approach make it difficult to assess achievements quantitatively. Therefore, the final evaluation of women groups will be limited to their knowledge and attitudes. Since no observations were included in the evaluation, it will be assumed that practices affirmed by the women in the group discussion is a positive or negative change in women's behaviors.

C. RESULTS – TECHNICAL APPROACH

1. General Introduction

Dates of Funding

On September 21, 1995 Mario Ochoa, Executive Vice President of the Adventist Development and Relief Agency, signed the agreement for funding from USAID for this Child Survival XI Project. It was initiated on September 30, 1995 and was implemented for four years until September 29, 1999.

Location Description

The three targeted districts are located in the southern most region of the western Governorate of Hodeidah (see Appendix E). The flat plain of Khokha District is bordered by the Red Sea on its western side. Hais District is also a flat plain that abruptly gives way to the mountainous and most rural Jabal Ras District in the east. These three areas provide the project with a wide range of geographical terrain and also cultural differences. Islam is the religion of faith for this country.

Justification for Awarding Grant

When funds were first awarded to ADRA/Yemen the infant mortality rate for the country was 78/1000 live births and U5MR was 112/1000 live births (*State of the World's Children*, 1996). The most common causes of infant and child mortality include diarrhea, ALRI, LBW (prematurity, birth complications), malaria and immunizable diseases, as reported by the local health center staff. A 1989 UNICEF survey reported a maternal mortality rate of 387/100,000 live births for the southern governorates. However, rural estimates tend to be higher, even 800-1,000/100,000 live births.

Leading causes of maternal mortality include hepatitis, postpartum hemorrhage, and eclampsia and reproductive maternal related complications (*The Situation of Children and Women in the Republic of Yemen 1992*, UNICEF). The existing health infrastructure was doing very little in the area of health interventions. Only very basic primary health care services were provided at the health centers and almost all of the health units were non-functional. Equipment and drugs are extremely limited or lacking altogether.

2. Project Goals and Objectives

The main goal of this project is to improve the health of mothers and children in the Hais, Khokha and Jabal Ras Districts of the Hodeidah Governorate, in the Republic of Yemen, as stated in the DIP. It has attempted to accomplish this goal through a number of objectives under the three main interventions of EPI, CDD and nutrition. Below each objective is listed with the baseline percentage, end-of-project objective and the results of the final survey.

3. Summary Chart

Intervention	Objective	Baseline	EOP Obj	Final
Literacy/Small Credit	Develop self-sustaining functional literacy program for women followed by small credit for income generation of families in project area villages % Literacy among women	5.8%	na	10.4%
	Number of families involved in small income generation projects	68	na	90
EPI	Increase % of children from 12-23 months completing immunizations from current estimate of	9.6%	50%	4.9%
	Increase % of children 12-23 months who received OPV3 from current estimate of	17.0%	50%	9.9%
	Increase % of children 12-23 months who received measles vaccine from current estimate of	11.1%	50%	12.3%
	Decrease % change between DPT1 and DPT3 doses for children 12-23 months from current estimate of	20.0%	10%	70.0%
	Increase % of WCBA receiving two doses of TT from current estimate of	14 of 20 with cards (4.7% of all mothers with child <24 months)	25%	25 of 34 with cards (8% of all mothers with child <24 months)
Nutrition	**Initiation of Breastfeeding**: Increase % of infants/children (<24 months) who were breastfed within the first 8 hours after birth from current estimate of	62.3%	75%	64.5%
	Exclusive Breastfeeding: Increase % of infants (<4 months) who are being given only breast-milk from current estimate of	37.0%	50%	10.5%

Intervention	Objective	Baseline	EOP Obj	Final
	Persistence of Breastfeeding: Increase % of children (between 20-24 months) who are still breast-feeding and being given solid or semi-solid foods from current estimate of	62.5%	75%	78.3%
	Introduction of Foods: Increase % of infants (between 5-9 months) who are being given solid or semi-solid foods from current estimate of	69.5%	80%	84.8%
	Increase # of families growing 2 fruits/vegetables rich in vitamin A	Not obtained (or 0)	100 families	596
	Increase % of infants/children (<24 months) who have a growth monitoring card and have been weighed in the 3 preceding months from the current estimate of	1 of 295 has card (.33%)	25%	26 of 299 have cards (8.7%) 17 of 26 weighed
	Increase % of children (<24 months) whose nutrition status improved by 10%	Not obtained	-	Not obtained
CDD	**Continued Breastfeeding**: Increase % of infants/children (<24 months) with diarrhea in the past two weeks who were given the same amount or more breast milk from the current estimate of	73.8%	84%	73.0%
	Continued Fluids: Increase % of infants/children (<24 months) with diarrhea in the past two weeks who were given the same amount or more fluids from the current estimate of	60.7%	75%	72.0%
	Continued Foods: Increase % of infants/children (<24 months) with diarrhea in the past two weeks who were given the same amount or more food from the current estimate of	29.1%	45%	29.1%
	ORT Use: Increase % of infants/children (<24 months) with diarrhea in the past two weeks who were treated with ORT from current estimate of	28.3%	45%	27.8%
	Increase % of mothers of infants/children (<24 months) who know two or more correct symptoms indicating the need to seek trained health care from current estimate of	67.7%	80%	68.9%
	Increase SCM of diarrheal episodes being practiced to 80% of health service facilities.	Not obtained (or 0)	80%	Not obtained

Intervention	Objective	Baseline	EOP Obj	Final
	40% of retail outlets selling ORS will consistently educate clients in the need for and proper use of ORS.	Not obtained	40%	Not obtained
Community System Strengthening	Increase community capacity to manage and resolve community problems by establishing 12 HFCs.	0	12	14
	Increase number of HFCs that met at least monthly during the last quarter from	0	12	14
	Increase number of HFCs that reviewed disease surveillance reports during meetings in the last quarter from	0	12	14
	Increase number of HFCs that participate in problem solving from	0	12	14
	Increase number of HFCs developing strategies to assume management responsiblities of CHPs from	0	12	14

Complete survey results and discussion can be found in the *CS XI End of Project Survey Report*, 1999 (Appendix F).

4. General Program Strategy and Interventions

According to the DIP, the project was designed to operate in two phases. The first phase was to start in March 1996 and end in December 1997. This phase was to focus on strengthening the existing MoPH service delivery system for the project's three primary interventions, by providing some equipment (cold chain, motorcycles, scales, etc.), by providing refresher training to health workers and by community mobilization in the communities served through the existing services.

The second phase was scheduled to begin in January 1998 and end with the project in September 1999. It's focus was to establish services in the project's three interventions to communities not presently reached by existing services. The focus was to be on community mobilization and on overcoming logistical barriers to service provision.

a. *Community-based Empowerment*

The overall project design is specifically aimed at empowering existing community entities (local councils) and creating new community level entities (local development committees, LDC*) where necessary. The original DIP stated that 30 HFCs would be established. These entities were to make it possible to: 1) increase accessibility; 2) increase awareness; and 3) provide a means for quality control. Health facility

* Over the life of the project, this terminology has evolved from the original local development committee (LDC) to local health committee (LHC) and to the current health facility committee (HFC). From here on the local development committee will be referred to as the health facility committee as this is the term used by the Health Sector Reform.

committees were to receive training in conducting efficient meetings and functions. Supervision and follow-up of HFC CS activities were the responsibilities of the Community Development Coordinator (CDC). HFC activities included such things as taking responsibility for local vaccination sites, transportation of vaccinators, promoting and supervising the role of the Community Workers (CWs), maintaining a vital events registry, reporting and reviewing the HIS for relevant information, replacement of CWs and family gardens in the community. These activities would require the gradual increasing involvement of the HFCs, local area councils and the local communities in general. The strengthening of the MoPH through participatory self-monitoring of the cold chain system and of standard case management (SCM) in health facilities, were also to be aimed at creating locally sustainable initiatives. The enlistment of the private health sector in education regarding proper management of diarrheal episodes in conjunction with the sale of oral rehydration solution (ORS) packets would also require local involvement.

According to the mid-term evaluation recommendation, one of the CS objectives to "increase community capacity to manage and resolve community problems by establishing 30 LDCs" was revised to read "12 LDCs" (HFCs).

The groups targeted for project activities and defined high risk populations for each intervention are listed below, as well as the estimated 1997 population in each risk group:

Intervention	***Population at Risk***	
EPI: childhood diseases	Children 0-11 months of age	3,606
EPI: TT	WCBA 15-49 yrs of age	18,000
CDD	Children 0-23 months of age	6,895
Nutrition	Children 0-23 months of age	6,895

There are several levels at which eligible women, children and newborns were to enter and participate in these programs. At the community level, for all interventions, Health Workers (HWs) and CWs to encourage mothers to attend growth monitoring and immunization sessions at sites in their village, local health unit (HU) and/or the district health center (HC). They were to also promote attendance at health education sessions at the community level. At the health center level, patients were to be enrolled for pediatric and maternal immunizations, nutrition counseling and diarrheal case management.

b. *Child Survival Interventions*

The project was to promote the three Child Survival interventions of EPI, Nutrition and CDD.

EPI – 40% OF PROJECT EFFORT There were several EPI intervention strategies. One was to improve the accessibility of immunizations by strengthening the MoPH cold chain and transport system and by making the Hais Health Center an immunization storage center for the three districts. Secondly, training and retraining of HWs to be vaccinators

and cold chain monitors, would also strengthen the existing MoPH infrastructure. Thirdly, mothers were to receive key EPI messages to increase an awareness for the need of immunizations, through trained health workers and CWs. Fourthly, health facility committees and district councils were to be established to assist in community-wide promotion of EPI campaign days, through posters and education of village leaders and other community members. Rationale for the strategies of this intervention was due to an irregular supply of immunizations to the communities of the three districts, mostly due to an inadequate cold chain system and an erratic supply from Zabid (at the time of the DIP was the regional depot for vaccines). There used to be occasional stock shortages prior to project implementation, particularly of needles and syringes, since they have switched to disposable syringes. Many of the HUs are inactive, and HWs need to be motivated to return to their posts—immunization responsibilities were to help provide the stimulus. Plans to resupply and/or repair cold chain equipment for the HUs were to enable HWs to carry out responsibilities effectively.

NUTRITION – 30% OF PROJECT EFFORT The nutrition intervention was to educate mothers through health workers and CWs during home social contacts and at monthly vaccination/weighing days. Particular emphasis was to be placed on appropriate breast feeding and introduction-of-food practices. Secondly, there were to be growth monitoring activities. The Mid-term Evaluation recommended that the project focus on identifying LBW infants and make these individuals the primary beneficiary of growth monitoring (GM) activities. They were to be encouraged and followed up more intensively with home visits by CWs. Rationale for this intervention was that there would be no current nutrition education program in the target area and casual observation noted no education of mothers in nutrition by health personnel. Only select and seriously ill infants were being weighed when they came to the Hais Health Center. Finally, a Garden Promoter would be responsible for encouraging families to grow vegetables in family gardens. Seeds/seedlings were to be procured from other support sources. ADRA was also to explore the feasibility of incorporating nutritious home-grown foods in the family diet. The addition of the Vitamin A project, enabled ADRA to designate personnel and funds to focus on these activities.

CDD – 30% OF PROJECT EFFORT The CDD strategy focuses primarily on education: 1) refresher training for HC staff on SCM; 2) training of ORS retailers to transmit health messages through their counseling at the time of ORS packet sales; and 3) the education of mothers and families through trained health workers and CWs. This project was also to provide a means for ensuring the supply of ORS packets to health centers and units.

c. *New Supplementary Components*

The project has made the decision to use women's literacy, health education and credit groups as one of the main vehicles for its CDD, EPI and nutrition activities. The women's groups, which were funded through the Canadian International Development Agency (CIDA) and later by the Social Fund for Development (SFD), have the goal of teaching literacy, numeracy, health messages and small enterprise development to women. The women's groups are based on the Grameen Bank model. Women form

themselves into groups of 15 to 25 women from ages 15 and up. Conditions for receiving loans are that they establish a self-managed group savings fund into which they deposit a set amount every week (the amount is decided by each women's group), and that they participate in basic literacy class. Health messages were to be added to the health education component as each CS intervention was introduced. The project employs 28 "volunteer" CWs. In addition there are eight supervisory level CWs who support and supervise the women's groups a minimum of twice a week each. At the top level are 3 Women in Development Officers (WDOs) each in charge of a different district.

In August 1997, ADRA/Yemen added the Vitamin A Project to its activities. By separate funding through PATH Canada, the project hired a Vitamin A project director and began implementation of this program by the third quarter of 1997. Interventions included targeted capsule distribution, vitamin A nutrition education for Hais Health Center (HHC) staff, Women's Literacy and Small Enterprise Development (WL/SED) project staff and mothers and agricultural training and assistance for small kitchen gardens. These activities have been closely integrated with, and complement the three core CS interventions of CDD, EPI and nutrition. Vitamin A deficiency has been documented as a major nutritional problem in the project area that has a major affect on mortality, including mortality from diarrheal disease.

ADRA has also included a Cost Sharing and Drug Revolving Fund Project in its programming. This had been mentioned in the DIP but not elaborated on, nor funding provided for. The initial funding was received from the Netherlands Embassy and secondly from the British Embassy. The first six month phase began July 1997 and the second one year phase began January 1998. This project was set up as a village pharmacy program to be managed by communities. Users of health facilities pay the full cost of low cost generic drugs. It was initiated as a response to the low commitment of health workers and committees to fulfill their job descriptions and roles. Because communities view the lack of essential drugs as one of their key priority areas, assisting communities to gain access to drugs has become a strategy to gain their cooperation in organizing around all health issues, including the CS components.

ADRA has recognized a serious deficiency in reaching the beneficiaries through the local health system. It has attempted to address this problem from various angles (coordination of activities with the Governorate Health Office, coordination of supervision of HWs, implementation of the Cost Sharing/Drug Revolving Fund, encouraging the participation of the HFC, etc.). The director of projects have been very discouraged with the results of health workers taking to their assigned posts. It has become more and more evident that another means of reaching the community is necessary and the leadership is willing to try yet another avenue. This involves placing well-trained community midwives (CW) in communities to assist the HWs in achieving their tasks. Currently, 23 students are being trained at the center. This training is a two year course with a significant amount of field work required before they are given their certificates. Community midwives will not only attend to deliveries but receive training on all CS components.

5. Description and Analysis Of Child Survival Components

a. *EPI Intervention*

The survey results on EPI cite that for all but two indicators, the final survey showed a worsening of EPI statistics from the baseline statistics. Of those two, one (measles coverage 12-23 months) is statistically the same and the other indicator (the coverage of TT of mothers with children <24 months) appears to have increased by almost 50% but is still far from its stated goal. The other indicators, immunizations completed, OPV3 coverage, DPT dropout all appeared to worsen in the final survey results.

The positive answers of the first question of the EPI section on the survey ("Has your child received immunizatons?") increased from 20% of the baseline survey to 70% of the final survey. Although this has no specific indicator significance, from the mother's perspective, it is anecdotal evidence of a dramatic increase in EPI activities and was cause for careful attention during the field visits of the evaluation.

The evaluation team, in its questioning of Hais Health Center (HHC) and Health Unit (HU) staff and the reviewing of records came up with the following results, which tend to show a different picture:

Health Facility	EPI Services?	% of EPI coverage	Factors affecting coverage	ADRA's Role	Role of HFC
Khokha HC	Yes	55%	Poor accessibility	Training Solar refrigerator	None
Qataba HU	Yes	47%	No refrigerator	Training	Supportive
Qulma HU	Started Aug 99	45%	Nonfx refrigerator	Training Supervision	Supportive
Dhamy HU	Yes	42%	Nonfx refrigerator Less awareness	Training Supervision	Supportive
Hais HC	Yes	65%	None	Training Campaigns Supervision Solar refrigerator	Accepted
Majareen	Yes	17%	No transportation	Training Supervision	Supportive
Dohra	Yes	75%	None	Training Solar refrigerator Transportation Campaigns	Supportive
Nafsa	Yes	55%	None	Training Supervision	Supportive

Information gathered from questionnaires given to health workers and calculations based on health facility records for the month of August.

In the discussion of these discrepancies, the evaluation team pointed out that the KPC survey required the demonstration of a vaccination record by the mother. The fact that

the majority of the mothers did not have a card, shows low results in both baseline and final surveys. However, the records in the health facilities do indicate that vaccinations are taking place and project administrators insist that the project has placed a great deal of effort in this area.

The percent coverage of the third dose of DPT listed in the table above was derived in the following way. The total target population for each HU was divided by 12 to get the target population for one month. The number of children vaccinated during the month of August was then divided by the target population for one month to arrive at the percentage.

The evaluation team posited that the records in the health facilities at the time of the baseline were not being kept either, so using the above percentages would not necessarily be statistically valid with reference to the original baseline. Then again, HW activities were essentially nil at the time of project implementation. The HWs were unanimous in stating that the coverage rates had improved during the time of the project, and the facilities' records, substantiated this. However, the amount of change can not be substantiated, due to the requirement of the KPC question to show a card, which caused a problem at least in the final survey. Because of this uncertainty, it is not clear if the stated objectives in the DIP were met. Certainly, based on the visits to the health facilities, the objectives were at large reached. But quantitative data does not support that conclusion.

During site visits, the team found that children were quite eager to show off their BCG scars, and the coverage of the schools where the team visited, indicated by the apparent universality of the children showing the scars, would indicate good coverage.

Volunteer Vaccinator Training

Volunteer Vaccinators were selected by certain communities to assist in mini-immunization campaigns in the respective areas. A total of 61 VVs (consisting of both females and males) were trained in the three districts. It appears that there has been a lack of supervision to follow-up on the utilization of this significant assembly of workers. They have been mainly used during initial mini-campaigns and then essentially forgotten. There are several reasons for this: 1) Even though initial conditions to join the training was a signed understanding that there should be no expectations of incentives, this has indeed happened; 2) there is no cooperation between HWs and VVs; 3) sometimes there are interruptions of available vaccines; 4) HFCs do not take these volunteers seriously.

ADRA did its best to provide the most appropriate technology for the cold chain system by purchasing four solar refrigerators. Together with the MoPH, who also provided a few new refrigerators, they were able to rotate and shuffle them around sufficiently cover the project area by setting up distribution centers and sub-centers. When supervisors and HWs continued to insist that accessibility to vaccines was still a problem, they initiated a supervision system and provided incentives and transportation allowances to ensure that all areas were being covered. This last action was in some

ways forced on them by the MoPH, and they realized that this was not a sustainable activity. But they felt it was a temporary necessity that could be monitored for success and absorbed by the MoPH system or managed by the HFCs. Because it has not really increased the activities of the supervisors, ADRA should not feel obliged to recommend or continue these activities.

Refrigerators in Hais, Khokha and Jabal Ras

	MoPH	ADRA	Total
Available	7	4	11
# of fx refrigerators	5	2	7
# of nonfx refrigerators	2	2	4

During the field visits, several HWs mentioned that it would be very helpful to have their own functional refrigerator because the HUs are so remote. A generous estimate by the evaluation team says that about 10 more are needed to sufficiently cover the project area.

The issues of non-functioning refrigerators was brought up. Refrigerators provided by both ADRA and the MoPH seem to be in constant disrepair. There is no one to take responsibility for this problem. One of the team members, well-acquainted with MoPH activities, stated that there is a system in place in Hodeidah for taking care of these problems. ADRA needs to explore this option or train HWs on how to maintain the boxes themselves.

Knowledge, Attitudes and Practices Among Women's Groups

Knowledge of the women of the six infectious diseases is high. Almost without exception, they could name all of the diseases. Nevertheless, the majority did not know how many DPT doses a child should have. The team feels that the lack of knowledge in this aspect is due to the fact that children could not get vaccinated regularly because of insufficient amount of vaccines, irregular vaccination activities, remoteness of the HU from some of the targeted villages, and/or the lack of EPI cards with this information on them. Even where cards are available, the information and recorded data are not explained to the mothers. In most villages, mothers stated that they rely on the HW's public announcements to come back for FU. All groups knew about the vaccinations for childbearing women. Al Fash women said that they did not receive the TT vaccines. Some married and unmarried women from the remaining groups did receive the TT vaccine and some even showed their cards.

The difficulties women face in getting their children and themselves immunized are as follows:

1) Health units are not sufficiently supplied with vaccines.
2) Health center is found crowded.
3) Most of the focus groups targeted areas have no health units and women have to go to HHC, but they find transportation expensive.
4) Vaccinators do not visit the areas regularly.

These weaknesses in the EPI intervention has confused the mothers leading to huge numbers of drop outs.

A summary of the reasons for the apparent low coverage of EPI can be listed as such: 1) lack of commitment of HWs; 2) lack of commitment of supervisors; 3) terrible monitoring and health information system or rather complete lack thereof; 4) refrigerators not maintained so the flow of the cold chain system is interrupted; 5) logistical challenges and remoteness of communities; and 6) some communities and HFCs still unaware of the importance of their support and participation.

Strengths

1. Record keeping at the health facilities has moved from almost none at the beginning of the project to valid record keeping at the end of the project. This is due to the training in EPI record keeping done by the project staff.
2. Awareness raising in EPI among the community as a whole.
3. CMW curriculum includes immunizations.
4. Women's groups are good vehicles for spreading messages in their communities.
5. HFCs are in place to increase coverage.

Areas of Weakness

1. Related to the HIS system, is the fact that the lack of use of cards was not picked up in program monitoring and dealt with during the program.
2. There seem to be some weaknesses in linkages or coordination between ADRA and MoPH at the district level. While raising awareness is being done by ADRA with respect to EPI and has tended to increase demand, health services in these areas are not keeping in pace with the development that is taking place.
3. It is not clear from ADRA implementation plans and activities if there is any system followed to know to what extent does the information given to these women pass to other women in the targeted districts.
4. Maintenance of equipment: failure to design a cold chain maintenance plan or training program.
5. Volunteer vaccinators are under-utilized.
6. Low participation of the HFC in solving transportation problems.

Lessons Learned/Suggestions

1. There is a need for the MoPH to establish some protocol that requires the use of cards, perhaps for entry into schools.
2. ADRA needs to make sure that in the follow-on program, emphasis is placed on encouraging HWs to provide mothers with immunization cards while at the same time undertaking education on the value of the card and how to use it. Incorporating this as a specific literacy class may be helpful.
3. Encourage the MoPH to establish a system with duplicate cards to replace lost cards when needed. Plastic envelopes for card protection may also emphasize the importance of the cards for mothers.

4. Some type of survey may need to be repeated for the EPI indicators that can give a better idea of coverage than using only mothers' cards. This may be needed to establish baseline data for the new project.
5. Apparently, regular assessment of women's needs is lacking. Regular assessment will help in correcting or strengthening information related to immunizations as they relate to mothers and children.
6. As a successful event, mothers knew about vitamin A capsule for the children and all of them knew about it because vitamin A capsules were distributed during the polio eradication campaign. On the other hand, while mothers were learning about EPI, the practice was not existing in support to the theory, and that made the information on EPI fade away from the mothers' memories.
7. During FGD, a few women indicated that the food ran out so they didn't wait to have their children seen or immunized. With a little more probing at the HHC level, it was made known that a World Food Program was being implemented in the center. It should be noted that this program will be detrimental to ADRA's efforts and decrease the likelihood of strengthening the PHC services. **Request exemption from this program if it is implemented nationally.**
8. Maintenance of cold chain equipment may be remedied by better coordination with the GHO.
9. Increase understanding of volunteerism. Also clarify links between VV, HFCs and HWs. This includes strengthening the management of HFCs with respect to supervision of support services for EPI.

b*. CDD Intervention*

From responses of women's focus group discussions, the evaluators seem to feel that ADRA's efforts are making an impact and the survey does not reflect the reality. It was also concluded that the defects of the current health system has impeded the CDD health messages from being spread adequately to have an overall impact on the three districts.

Actual implementation of the CDD intervention didn't begin until November 98, which was the training of HWs. But actual distribution and continuation of training didn't occur until March 99. There are several reasons for this unfortunate delay. The most important reason relates to the defunct health care system and HWs who have no sense of accountability. This required concentrated effort and innovative solutions. This problem led to the community organization strategy that this project determined to undertake. This was a time consuming effort that included planning and strategizing on the part of the community development section. More human resources were necessary for this and it was decided to add facilitators to the section. This required planning, selection and training. Then their actual work in the field in establishing the HFCs took time. There was also a slight detour in introducing the CS/DRF project and the addition of the CMW Training program. All of these factors reflect ADRA's recognition of the area's desperate need for a system and channel for implementing the interventions.

ADRA has put in a significant amount of work in developing health education materials for this intervention. It began with intensive formative research and an analysis process. The team then formulated health messages based on that information, hired a local artist and then did field tests of the product and made the necessary adjustments. The product is a small flip chart that is broken up into several lessons. Each picture is accompanied by a set of facts and a list of questions that will facilitate discussions in a group setting. They are being distributed among women's groups and is currently awaiting formal approval by the MoPH. It is commended as the only available Arabic tool on this topic in this country.

Once the HFCs were in place, village pharmacies began to function and HWs were retrained on various issues, CDD interventions were ready to begin. Women's Groups began to receive health messages on CDD. The decision was made to select a model mother whom community women respected and to whom mothers could go for ORS packages and advice on how to treat diarrhea episodes. An ORS corner would be situated in these homes. Then it became apparent that permission needed to be obtained from the MoPH if mothers and other retailers were to sell the ORS packages. This in itself required a focused amount of time and attention before it was authorized by the MoPH in Sana'a.

It turned out that there are not very many shops in the rural areas so not much effort was placed into this, but instead focused on the CWs and women's groups. In those villages where the evaluation conducted FGDs, women were quick to name the places where they could obtain ORS packages, whether it was in the HU, a little shop, pharmacy or with a particular mother selected by them.

Taking all these considerations into account, it is obvious that the slow start in this intervention did not have enough time to make an impact beyond those areas where the women's groups and HUs were targeted. As part of reaching out to the community beyond the women's groups is the work of the CMWs in making home visits throughout the Hais community. As part of their training, they are active in visiting with mothers in the homes and spreading health messages during these times. Now that all these things are in place, it is certain that CDD health messages and other components of the intervention can and will be spread quickly and efficiently with the addition of other innovative methods.

Knowledge, Attitudes and Practices Among Women's Groups

No doubt that training and raising awareness activities have played a big role in educating the mothers on how to take care of their children with diarrhea and how to prevent diarrhea. The womens' active discussion and responses to the various questions on diarrhea control, treatment and prevention, showed that they knew the lessons very well. To what extent these women practice the measures discussed, will only be revealed in the rates of morbidity and mortality of children of these three districts.

Almost all groups, with the exception of one, responded that they did not have to seek advice when their children have diarrhea because they know how to take care of them. If diarrhea continued or became worse, they would take their children to the health unit or health center or to the hospital. This is in great contrast to responses given during the first session of focus group discussions being done in preparation of this intervention's implementation. At that time they were almost unanimous in saying they ask the advice of their mothers or aunts, as documented by project reports. But there was some weakness in the mothers' knowledge in the preparation of homemade ORS. The main reason could be that ORS packets are now available and accessible and there is no need to practice or use the alternative.

ORS Corners

Prior to ADRA's involvement in HC activities, *murshidaat* (female HW) were attending to diarrhea cases with minimal confidence and not always with SCM. Under the influence of mid-term evaluation recommendations, ADRA moved ahead to begin the first ORS corner in the HHC and coordinate better with this important health staff. Now the attending physicians refer their patients with diarrhea to the *murshidaat* for health education and practical training in ORS preparation.

Soon after, activities were undertaken to begin ORS Corners in all the HUs, but since they are largely unattended by the HWs, the project decided to select and train certain mothers in the communities to perform these services. During the last year of the project implementation five courses on CDD were given. Mothers of a community know to go to these trained persons for ORS packages and health education when their children have diarrhea.

Training

There have been numerous trainings (17 total) on CDD. Trainings covered HWs, HHC staff, HFCs, WL/SED trainers and facilitators. Coordination was done with the GHO to conduct the CDD, Nutrition and Vit A Trainings. The particular sections that were involved from the GHO included the maternal and child health (MCH), Training and Nutrition sections.

CDD Training Summary

Course	Type of Participant	Total	F	M	Date
ORS Preparation	CWs	12	12		19-20 Nov 98
CDD Refresher Course	HWs	32	10	22	19-23 Apr 99
CDD, Vit A and Nutrition	CWs	25	25		10-13 May 99
CDD, Vit A and Nutrition	Facilitators	12		12	17-20 May 99
CDD, Vit A and Nutrition	HFCs	220		220	6-30 July 99

Strengths

1. Mothers are trained and have initiative in providing home services.
2. Good materials have been prepared for use.
3. Vitamin A and nutrition training integration strengthened CDD intervention.
4. Accessibility of ORS and weaning foods.

5. GM will also strengthen this intervention.

Areas of Weakness
1. It is not clear from ADRA implementation plans and activities, if there is any system followed to know to what extent does the information given to these women pass to other women in the targeted districts.
2. Weak link between the HU and ORS Corners.
3. HFC and community as a whole have a poor understanding of the importance and value of sustaining services provided by it's members (i.e. CWs and mothers with ORS corners).

Lessons Learned/Suggestions
1. All HUs should post SCM posters and HIS/monitoring system should observe HWs and mothers with ORS corners when they are with patients to identify any weaknesses in SCM.
2. GM will help to strengthen CDD intervention by identifying ailing children.
3. HFCs need to come up with suggestions to reward their service providers.
4. The objective to work with retail outlets selling ORS needs to be rethought.

c. *Nutrition*

Breastfeeding

Certain breast feeding practices reflect improvements surpassing ADRA's end of project's objectives, while other practices indicate maintaining a status quo level or even a decrease from the baseline indicators.

The INITIATION of breastfeeding has only increased from 62.3% to 64.5%. This is short of ADRA's goal of having 75% of children breast fed within the first 8 hours after birth. In its analysis, the ADRA project staff had no particular explanation why there was not a greater initiation of breastfeeding. However, mothers are feeding their child better now than they did four years ago.

The PERSISTENCE of breast feeding (breast fed children between 20-24 months) has increased nearly 16% to 78.3%. This is combined with the introduction of SUPPLEMENTAL foods which has increased from 69.5% to 84.8%. In this sense, nutrition is one of the project's notable successes.

However, EXCLUSIVE breastfeeding has decreased dramatically, going from 37% down to 10.5%. ADRA staff members suggested the following possible explanations: 1) it is the mother's plan to wean her child by 6 months and therefore must start supplemental food early; 2) mothers don't think they have enough milk, so supplement; 3) some mothers do suffer from poor nutrition and being underweight, and in fact do not have enough milk, so must supplement; 4) some mothers believe that by supplementing food they increase the child's nutrition (*CSXI EOP Survey Report*, 1999).

The following possibilities were discussed among the evaluation team members: 1) It is unsure whether women properly understood the survey questions at the baseline or the

final. 2) Health messages may not have emphasized this point enough and/or traditions are getting stronger. 3) Project activities for nutrition did not start early enough for impact to take place. 4) Project activities were too focused on women's groups and not the target area as a whole.

Knowledge, Attitudes and Practices Among Women's Groups
All women agreed that a newborn should receive its first breast milk immediately after delivery. All groups agreed that the infant should be exclusively breastfed for four months and described why. They explained that giving sugar-water and tea to newborns used to be practiced in the past by their mothers and grandmothers. The Dar Al Hurby group explained that giving sugar and water or tea to the newborn might cause diarrhea and malnutrition. Almost all of them attributed the practice of feeding the newborns with water and sugar to the belief that breastmilk is not secreted in the first few days.

Weaning Foods
In line with the objective to improve the indicator for introduction of foods for infants 5-9 months of age, the production of a porridge-like weaning food was an innovative initiative of ADRA's to strengthen the MCH section of the HHC. The mixture contains the following ingredients: rice, lentils, whole wheat, sorghum (3 kinds), corn, digara bean (2 kinds), barley and vanilla. Mothers are instructed to add 1 cup of cow's milk and if there is no milk, water is OK. Sometimes mothers are encouraged to add an egg. This mixture is boiled until it is like porridge. *Murshidaat* clean and send the ingredients to the mill. Facilitators do the packaging. These are then sold for 25YR/250gm. Each package has about 5 meals/pkg.

After a decrease in *murshidaats* at the HHC*,* the activities became too much for those left. Also, the WFP came in and disrupted and confused these activities, even causing packets to expire. The NGO (facilitators) had the idea of expanding these services to the whole area. They have now taken this up as an income generating project.

Growth Monitoring
Similar to the situation for EPI, the project's lack of monitoring has affected the indicator for this objective as well. It seems that although children are participating in GM activities at the HHC and in homes, mothers are not educated on the importance of the card nor is it given to them. Other factors affecting this objective include: 1) the long delay in receiving weighing scales (special portable solar-powered electronic scales ordered in Jan 98 but didn't arrive until Mar 99), and 2) the delay in initiation of GM activities in the field so that significant change has not yet taken place. Discussion on comparison of baseline and final survey results and evaluation findings.

Knowledge, Attitudes and Practices Among Women's Groups
Although discussions on the topic of GM was not as lively as others, all groups answered positively to the question related to any importance to growth monitoring. The reasons they gave centered around knowing if the child is well nourished. Beit Mughary and Mahal women further clarified that it's done in order to know if the child

gains weight or loses. All women's groups, except those of Mahal, said that they didn't have growth monitoring cards.

Qataba, Al Fash and Al Hayet have growth monitoring activities in the health units. Mothers of Dar Al Hurby, Beit Mughary and Mahal need to take their children to the HHC for growth monitoring. However, Beit Mughary explained that many times they found large numbers of women waiting for their turn to be attended. This caused many of them to leave the center before receiving the care they desired. One of the women explained that the crowds of women at the HHC was mainly to receive food from the food program. Those who live in areas where there are no health facilities with these services, do not think it is important enough to warrant an expensive trip to Hais that may be crowded anyways. In Mubraz (of Jabal Ras District), GM activities have not yet started, but women do believe in the importance of watching the weight of their children.

Vitamin A

The vitamin A objective mentioned in the DIP was achieved with great fanfare. This was made possible by the addition of the Vitamin A Project that focused, among other topics, on vitamin A gardening. These activities began by transforming a plot of ground behind the HHC into a training garden for the community workers. Now, over half of the women enrolled in the women's groups have a vitamin A garden. There are also a few community gardens and schools are beginning to participate as well. The women are well aware of the importance of vitamin A for them and their children's health. They can readily name different types of vitamin A rich fruits and vegetables.

Some of the women who participated in FGDs mentioned some of the challenges of gardening such as water shortages, soil, etc. This needs focused attention so that women can participate readily.

Linking the distribution of vitamin A to regular EPI activities has met with difficulties, although its inclusion in the National Immunization Day for Polio came about as a result of ADRA's pilot program.

Strengths

1. Production of porridge-like weaning food is providing income, is economical, innovative and locally available.
2. Appropriate technology of scales.
3. Women's groups' involvement in GM.
4. Integration of health messages with other interventions.
5. Vitamin A gardening very much accepted and appreciated.

Areas of Weakness

1. Specific monitoring system of nutrition objectives and utilization and distribution of GM cards lacking.
2. No nutrition/weaning foods are available in the HUs.
3. Late but intending to cover project's target area.
4. Weighing scales not available in the HUs.

5. Some problems in gardening need specific and innovative solutions.
6. Vitamin A capsule distribution.

Lessons Learned/Suggestions

1. Health messages need to emphasize exclusive breastfeeding and maternal nutrition during and after pregnancy.
2. Establish a simple monitoring system for nutrition objectives and supervision of community mothers carrying out GM activities.
3. The success of the gardening should be studied to understand why it has been successful so that all projects and other organizations can capitalize on this. May require formative research.
4. Enthusiasm needs to be sustained by continuing provision of assistance and guidance on how to improve their gardens and how to overcome difficulties they face.

D. RESULTS – CROSS CUTTING APPROACHES

1. Community Mobilization Activities

The Community Development section began its field activities from the early stages of the project. It began with one staff position, that of Community Development Coordinator. He was very successful in creating good relations and links between ADRA and the community. In October 1997, ADRA attempted to expand this section's activities by adding three volunteer facilitators. Each facilitator was assigned a district. Between October 1997 and May 1998, more than six health facility committees (HFC) were established. The community development section found itself faced with a huge responsibility in terms of establishing, training and follow-up of the HFCs. In May 1998, nine more facilitators joined the ranks.

At the time of the mid-term evaluation it was suggested to scale back the objective of establishing 30 HFCs to 12. By May 1999, 14 HFCs were established and 11 of these participated in the CS/DRF program. A lot of time and effort was placed on training these committees. All received training in health and most participated in courses on community development, organization, planning, report writing, proposal writing, and financial management as it relates to cost sharing. After the initial trainings and intensive support for a number of months, HFCs began to function on their own. This made it possible for the facilitators to focus on other activities besides follow-up of the HFCs. In April 1999, this section was reorganized so that the facilitators took on different responsibilities and roles. The Community Development section has been active in the following ways and will continue these during the interim time between CS XI and the new DIP:

a) **Following the HFCs -** As it was mentioned above, 14 HFCs were established and these committees need follow-up and continuous education. Two facilitators were assigned to take this task.

b) **Forming School Groups (Child to Child Program) -** Three facilitators are assigned to start this program. In June, four groups of students male and female at four different schools were established. The average age of the students is between 10-15 years. Health topics that the students are learning about include growth monitoring, immunizations, diarrhea, breastfeeding and first aid. Health messages in these topics are still under development. The future plan is to establish another four school groups in the rural areas. This will involve training school teachers to follow the students' activities in order to make it a sustainable program.

c) **Literacy and Small Credit Project -** One facilitator was assigned to facilitate and coordinate between the educational center of Hais and the Women's Literacy Groups. He is also following-up the credit activities, particularly the loan repayment program. He will also begin forming men's groups and educating them about the credit program.

d) **Nutrition -** One facilitator was assigned to work closely with the MCH section of the HHC to provide weaning food for mothers with children of 4-6 months of age. This is distributed in rural areas under the revolving fund scheme. This program is very successful and should be continued.

e) **Vitamin A Project** - One facilitator was assigned to support the Vitamin A Project activities.

f) **Educational Materials** – One facilitator is the artist who is working with all field projects helping to provide culturally appropriate visual aids and training materials for health education and community development.

g) **Translation** – There are many occasions in which materials, reports, pamphlets, etc. of each of the above activities need to be translated into Arabic or English. One facilitator was assigned to be translator.

h) **Landmine Program -** Three facilitators were trained and assigned to join the Community-based Rehabilitation project activities.

Ramadan Competition

The Community Development section created an innovative way of spreading health messages far and wide. During the month of Ramadan, the Islamic month of fasting and spiritual reflection, is usually accompanied by special TV game shows, radio contests and the like. Based on this concept, the facilitators designed a questionnaire for a competition that asks all types of health related questions, specifically relating to the interventions of the CS project. The questionnaires are distributed throughout the three districts. Those who turn in sheets with all the correct answers are then eligible to win cash or material prizes that are handed out at a special gathering. It has been an extremely successful endeavor with enthusiastic participation.

NGO Formation

For sustainability reasons, the Community Development section has determined to establish a local NGO that can carry out the activities mentioned above, once the project terminates. This NGO's role is not to represent the community but to help organize communities so that they can represent themselves. After numerous trainings and preparations, the Ministry of Social Affairs (MoSA) was contacted for guidelines, regulations and bi-laws for official registration of the NGO. Forty members, mostly ADRA staff, became a part of the NGO. Most of the non-ADRA members are friends of the ADRA staff. Representatives from MoSA participated in the election process of the management committee. Nominations were made and then voted on for the positions of Chairman, Executive Dir., Secretary General, Accountant, Social Affairs, Training, Women's Affairs, Monitoring and Compliance. Financial sustainability of this association remains to be solved, although there are possibilities on the horizon. Once everything was set in place, the obtaining government approval was relatively easy.

There are a few challenges and constraints to this process. In general, the democratic approach is frightening to the Yemeni people. The nation is still emerging from an era of autocracy and freedom of innovation and democracy are things to be feared. There are also many political concerns that threaten to disrupt the functions of the association. The association is but a fledgling entity and will require intensive support (also financial), encouragement, innovative ideas, monitoring and guidance to ensure its success.

Field Visit Observations

Based on the field visits and interviews with randomly selected HFCs, they appear to be effective and functioning. Bi-laws and regulations are formally documented and achievements are also recorded. Time schedules, meeting minutes and forms for recording are being used by the HFCs. The HFCs also complete monthly forms that record the financial situation, needs for the next period, drugs and cost recovery needs and activities. These are given to the facilitator who passes them on to the CDC for comments and analysis. Finally they are fedback to the community as an active and participatory method of problem solving. Of the nine HFCs visited, three are very active, well-organized and prepared. Others who didn't have their papers ready to share with the evaluation team were able to describe some of their activities such as building a new HU (idea from ADRA) and actions taken to look for other financial support. Community participation has progressed very quickly—it is not just something on paper. They now have the capacity to obtain support from other organizations. The schools in Al Fash and Hodeid and the HHC laboratory are the ultimate evidence that this is true.

Strengths

1. Appreciation of ADRA's support 6 out of 9 say excellent.
2. 90% of the HFCs visited, have achieved something: building of HU, maintenance of HU, provision of water and electricity to HU, established CS/DRF program and/or supported their HW with his services.
3. Six out of 9 have kept records and documented their activities.
4. Eight out of 9 committees were easily available—a good indication of organization.

Areas of Weakness

1. Not all community problems presented are being solved or get enough support and encouragement.
2. Women's representation in HFCs and coordination between the two is low except in Hais.
3. Some community representatives who are somewhat removed from the central point of the HFC sometimes feel ineffective and neglected.
4. Supervision of HFCs and quality of communication in solving problems needs more attention. Conflicts between the HW and HFC that escalate to the point of legal action effects the quality and regularity of services. The community loses and the HFC becomes non-functional.
5. Sometimes the HFC undermines the technical aspect of HW duties.

Recommendations

1. ADRA can facilitate and forge better cooperative relationships between the women's groups, HWs and HFCs.
2. Health personnel should be active members of the NGO with a leading role.

2. Communication for Behavior Change

Women's Literacy and Small Enterprise Development

ADRA chose to communicate health education and need for behavior change through the informal social networks that bring women together in homes and in small groups. The information would then be passed on to neighbors and family members that were not present during sessions. This idea evolved into the formal women's groups of the WL/SED program. For the women participating in these groups, this avenue for behavior change was effective. However, end-of-project survey data indicates that this method was far from adequate in reaching the vast majority of WCBA.

District	Groups	Participants
Hais	**24**	**564**
Jabal Ras	**17**	**276**
Khokha	**14**	**182**
	55	**922**

For the most part, breastfeeding practices improved, with the exception of initiation (remained virtually the same) and exclusiveness (which dropped). Practices during diarrheal episodes remained about the same. This intervention has not had enough active time to see impact. Vitamin A gardening was an objective that exceeded expectations by leaps and bounds and can be attributed to the special inclusion of the Vitamin A project that focused on this issue.

The inability of HWs to provide regular MCH services at the HUs also has had a negative impact on behavior change objectives, particularly those affecting the women's knowledge to fufill an immunization schedule. This is discussed in other sections of this document.

Focus Group Discussions

A few generic questions were posed at the end of the focus group discussions with the women that explored their "feelings" about ADRA's activities in their communities. In response to how has ADRA helped them, their family and their community, all women groups (with the exception of Al Fash), mentioned many areas that can be categorized into three main areas of 1) health, 2) literacy, and 3) loans. The Al Fash group mentioned only literacy and health. They were not enthusiastic about the loan program. When asked to prioritize these areas according to what they found the most helpful, all except Dar Al Hurby ranked literacy as their number one priority. Health and loans rated second and third, respectively. Dar Al Hurby placed loans first and then literacy. Most women were in agreement that health education for the control of diarrheal disease and simple lessons in agriculture, namely vitamin A gardening, were the most helpful health interventions. Even though EPI activities are stressed in all districts, the benefits, namely reduction of childhood diseases, are not easily perceived by mothers.

The women were also asked what they would like to see done differently by the MoPH. Five groups stated that they want the MoPH to ensure that their village HUs is provided with regular services and trained midwives from the areas. One group voiced the need for a HFC to be formed in their area and would like to see the HU well-equipped for obstetrical emergencies. To achieve better health services, two groups suggested that their community can make strong requests for adequate immunization supplies and renovation of the HUs. They desire more schools that cater to girls, including secondary level teachers and facilities. Three others mentioned the need for water and electricity projects. Some felt that their men were not capable of fulfilling these needs. Some said that they are away too much, working in various places like the sea and also because they have their own limitations. These requests are sophisticated and indicate the group's ability to assimilate community needs, community participation and role of the MoPH.

Strengths

1. Women's groups are an effective approach for training participants in health education messages.
2. Women are beginning to grasp the concept of community participation and their social status through involvement.
3. Women are increasing their ability to care for their families through literacy, problem-solving skills and the ability to prevent and treat diseases.

Weaknesses

1. Women's groups alone is not an effective means of reaching the entire target area.
2. Women's groups are not sufficiently represented in HFCs.

Recommendations

1. The project must not rely on women's groups alone to achieve behavior change objectives for the entire target area. The women's groups should be actively mobilized to perform skits/drama, rallies, etc. in their communities.
2. Women's groups must have adequate and participatory representation in the HFCs.

3. In-depth qualitative research needs to be done with participants of the loan program in order to understand perceptions, constraints, benefits, fears, etc.

3. Capacity Building Approach

a. *Strengthening the PVO Organization*

Over the course of the project, this grant has improved "the picture" of ADRA/Yemen in the country and to the government. Trust and respect has been built over a long period bringing ADRA to the forefront of NGOs existing in Yemen. Now even the different local political parties have shown their support of ADRA. Many of the unique approaches implemented by ADRA have been recognized by other NGOs in-country and by the government as replicable (i.e., cost sharing and drug revolving, establishment of local NGO, integration of health with women's literacy and small enterprise development, etc.). The Health Sector Reform is in fact largely influenced by the successes demonstrated by this project. A neighboring ADRA office in Sudan benefited from this project by sending some of their staff to learn about the integrated health program with the WL/SED activities. The integrated Vitamin A Project strengthened ADRA by initiating the first combined NID for polio with vitamin A distribution for the nation.

b. *Strengthening the Local Partner Organizations*

At the outset, there were no other local organizations with whom to partner. Because of this lack of partners and the jeopardized concept of sustainability, ADRA decided to create its own local partners by working with existing governing bodies and/or by establishing health committees consisting of natural and local leaders. The process has taken ADRA through many stages that has been described in the *Community Mobilization* section. Slowly the concept of a local NGO evolved over the course of the project and was designed to to encompass the work of the facilitators, reflect ADRA's image to the community and provide one avenue for sustainability of activities after the project terminated. This group of individuals has received training in health, management, cost-sharing, agriculture, finance, community development and participation. One of the ADRA sponsored workshops was entitled the *NGO Planning and Establishment Workshop* facilitated by a consultant from a Yemeni women's organization. Both male facilitators and female CWs participated in the workshop. During this workshop they learned how to prepare simple proposals and about basic managerial and organizational skills, etc. One of the key factors contributing to this successful strategy has been the project's investment of providing the opportunity for a highly-motivated individual to receive graduate level training in community development. Other factors include working very closely with the community, listening to their complaints and working with them to solve problems. The on-going broad-based training has also enabled facilitators to grasp at least a working knowledge of sustainability issues for their communities.

Although there have been no close partner organizations, the MoPH has asked ADRA to present their work and share with the certain District Health Offices and all types of NGOs working in Yemen such as Medicin Sans Frontiers, Radda Barnan, GTZ (German NGO), International Community Development. ADRA's successful work also

attracted the attention of Barbara Bodine, US Ambassador to Yemen, who made a special visit to the project site.

c. *Strengthening the Health Facilities and Health Worker Performance*

Situation Prior to ADRA's Intervention

As stated in the Mid-term Evaluation Report, the existing health care system at the time of project implementation was, with the exception of the two health centers in Hais and Khokha, basically nonfunctional. Twenty-two HUs were non-functional, nine were in disrepair and nearly 15 of these were only temporary facilities. Some were even being used as local schools. Health staff were without official job descriptions, no general supervision took place and health workers did not provide government services, but rather engaged in private practices. Health workers collected their salaries without having to demonstrate that they had worked that month. There were no essential drugs supplied to the units and no preventive services provided, with the minor and partial exception of EPI. Supplies to health units were extremely limited.

The government administration has allowed this state of affairs to continue for a number of years, and has not changed over the life of the project. The HHC administration claims that there is no budget and no transport for supervision, nor a running cost budget for HUs. Because no drugs or supplies are available, and in most cases no building from which to work, the administration does not feel it can demand HWs to remain at their posts to provide public services. As such, HWs were not under any accountability.

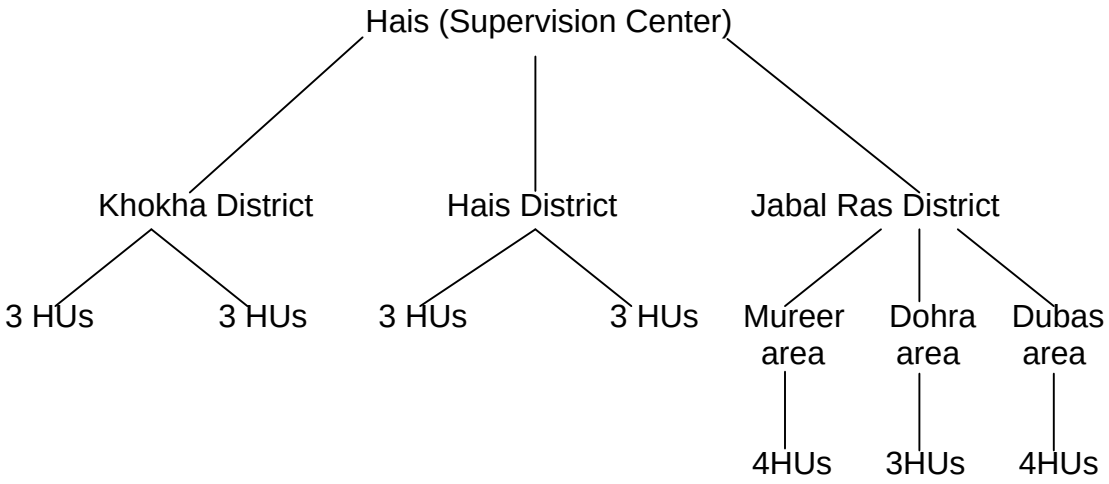
Actions Taken by ADRA

ADRA has made valiant attempts through the use of a variety of approaches to strengthen the management and services of health facilities and the performance of health workers. This has included **refresher training courses** in all of the interventions for HWs (see Appendix G). A **supervision plan** was designed and implemented**. Human resource development** is taking place. The HHC Director, also the MoPH Coordinator for the project, with ADRA's sponsorship, attended a workshop on community-based health care in Nairobi, Kenya. Management of the HC has been slowly gaining strength as its administration and community become better acquainted with collaborative work and constructive discussions. Also to the project's credit, 22 community midwives are being trained in Hais and 23 other individuals are now involved in trainings at the High Institute for Health and should complete their studies in the year 2001. They will graduate as lab technicians, x-ray technicians, nurses, etc. This was made possible by an individual from the Health Manpower Institute who came to do a training on supervision. He was so impressed with the work that ADRA is doing that he "felt forced" to help by initiating this type of training for the area. ADRA facilitated a search for funds for **upgrading of laboratory equipment** at the HHC. The HHC has received considerable **support for its EPI, GM, nutrition and CDD services**. The *murshidaat* now operate a streamlined system of preventive services when mothers are referred by the medical doctors to their department. GM and nutrition counseling is performed, immunizations given and an ORS corner in place for children presenting

with diarrhea. The **CS/DRF program** was introduced. HWs have also participated in CS/DRF and management trainings.

SUPERVISION OF HEALTH WORKERS

The problems with the HWs led ADRA to establish a supervision plan in cooperation with the Hodeidah Health Office. This supervision plan for health facilities started in July 98. The agreement was limited to the supervision organizational chart at the three districts and the support that ADRA was to provide in terms of incentives and transportation. The supervision system was divided into supervision areas as follows:



The supervision team consists of 8 trained supervisors. They were qualified by attending a nine-month supervision course conducted by the High Institute for Health Sciences with the support of ADRA. Incentives for the supervisors were determined according to the area they have to cover and transportation needs. Hais supervisors' incentives were set at YR1400/month, Khokha supervisors' at YR2300/month and Jabal Ras supervisors' between YR3500-5500/month.

According to the new supervision system the process covered the whole area. Supervisors started to provide monthly reports to the Head of Supervision at the HHC, who is responsible for receiving, analyzing and sending the reports to the Hodeidah Health Office. Responsibilities of supervisors include ensuring the supplies of vaccines, registers, forms, cards and sometimes drugs. Sometimes they are also involved in solving problems that a health facility may face.

HWs received training in all of the interventions and were able to demonstrate their knowledge. However, the problem of keeping regular hours in the HUs remains the greatest challenge for the project and for the MoPH in general. Supervision and monitoring of HW performance is one of this project's weakest areas. Sustainability issues, logistics, uninterested HWs and minimal support from the MoPH have contributed to this problem.

Achievements of the Supervision Activities

1. The health situation in the area has slightly improved through this system that connected the health facilities together with the supervision center.
2. The supervision center now has supplies available to meet the needs of the HUs.
3. A network between supervisors and HFCs has been established to help solve problems related to the implementation of health activities.

Constraints

1. Lack of transport for supervision activities and supplies and also for the HW to reach the second level (5km radius) and third level (15km radius) of care.
2. Lack of equipment and materials that help the HW to improve the health services such as cold chain and medical equipment.
3. Supervisors complain that incentives given by ADRA are insufficient to encourage them to fulfill their responsibilities.
4. Supervisors feel that communities are not fully aware of their own health needs or qualifications and responsibilities of HWs. This makes it difficult for the HFCs to assist the supervisors in following the HWs' activities.

Suggestions

1. The HFC needs to be trained about their involvement in supervision of the HW and the role of health services in their community.
2. ADRA and the HHC should ensure feedback of reports through the establishment of a good HIS.
3. ADRA needs to discuss and coordinate with the MoPH regarding sustainability issues relating to supervision activtities.

COMMUNITY MIDWIFE TRAINING

One of ADRA's most recent additions with the intention of improving HU services is the inauguration of the Community Midwife Training program. There are two trainers and 23 students enrolled in the CMW Training program under the sponsorship of ADRA and the MoPH with the cooperation of the community. Eight trainees were selected from Hais District, seven from Khokha District and eight from Jabal Ras District. The women are enthusiastic to begin work and do their practicals with the joy of learning. They are also well-coordinated with activities of the HHC, performing the duties of home visits in the community and by referring cases to the center as needed. During the evaluation visit, a class session was in progress. Despite the heat and humidity and no electricity, active discussion was taking place between the trainees and the trainer.

Following the session, the evaluators discussed with the trainees, trainers, and director of the health center the training situation. The trainees seemed to be happy with the trainers and the training as a whole. Some of those who do not stay in the hostel, complained of transportation difficulties from their homes to the training site and back. The problem of shortage of vehicles, due to the carjacking of one of ADRA's vehicles was explained to them.

The trainer expressed a number of concerns:

1. The training materials and references received from the national CMW training project are highly detailed and provide complicated information suitable for advanced training programs than the program being implemented here. This places her in a difficult situation when interested trainees want to understand the details and ask her to clarify. (The team told her to ask the students to focus only on the topics and requirements of their training. The trainer was also advised to talk to the zone team of the national CMW training program on this problem. The zone coordinator, later, was informed).
2. There are seven students weak in their studies and require major efforts to help them, and she is doing her best.
3. Training in the heat and humidity is very difficult. There is no electricity for most of the day creating an inconvenient environment for learning and studying.

The building of the training site was meant to be a cafeteria and this adds to the inconvenience by the way things are set up. However, the site as a whole appeared to be clean and tidy and the trainees with the assistance of the two trainers are trying to cope with the difficult situation.

There is an issue of quite a large number (7) of weak students. Under regular circumstances and policies, the High Institute of Health Services (HIHS) would have released them after 3-4 months of failure to thrive. A meeting of the trainers, project director, Director of PHC for the Hodeidah Governorate, Director of HHC and ADRA's Training Coordinator discussed the issue of whether to release the students or not. These students have already been given several chances to improve. The decision was made to allow them one more chance until the end of October when there will be an evaluation of their progress.

The practical training is carried out in the MCH/FP section of the HHC. The trainees are assigned to the different service delivery areas of the MCH and are supervised by the trainers and ADRA nurse practitioner. There seems to be a shortage in cleaning materials, there is no autoclave in the MCH section and they are short an examination couch.

Strengths

1. Women are learning beyond their own expectations what it means to care for maternal needs, perform safe deliveries and carry out primary health care services.
2. These women will be able to fill the need for reliable health staff in the field and are the hope of the future for sustainable activities.
3. The program has excellent, dedicated and knowledgeable trainers who care personally about each of their charges.
4. Students are able to compliment work of the HHC *murshidaat* in the community.

Weaknesses

1. There is a major problem regarding the venue. The training facilities host a hot, hostile and nonconducive learning environment. When the evaluators were there

the students were completely covered in their uniforms, including the trainer, even though there were no men around, and everyone was sweating profusely. When this matter was investigated further, it was discovered that the budget is insufficient to run the generator (even just for fans) for continuous use.
2. A significant number of students are doing very poorly in their studies.
3. Apparently, as observed, the trainees' hands-on practice is insufficient. They tend to observe more than to practice. This problem needs to be addressed with the trainers, service providers and trainees. Furthermore, there is no established Gyn/Obs section in the HHC for internship and practical learning and application. There are also no nearby facilities where students can carry out the practical segment of their studies.
4. No clear documented agreement with the MoPH regarding the future employment of these women.

Suggestions

1. Make this a permanent Training Center for other health courses.
2. Collaborate with the MoPH and GHO to document a plan for employment of the community midwives in the areas from which they originate.
3. Begin now to build linkages with health facilities that have an adequate OB/Gyn section for where students fulfill their practical training requirements.
4. Do not allow the issue of weak students to continue longer than necessary. Either place them in a different training program for TBAs only or devise an alternative plan if dismissal is not an option.

EQUIPMENT AND MEDICAL SUPPLIES FOR HEALTH UNITS

Of the HFCs visited, ADRA is providing support for 8 out of 9. This support includes three refrigerators, several microscopes, cupboards, bp cuffs and furniture. All except the refrigerators were obtained through funding other than CS. Only 1 out of 9 had a GM scale. This is because women's groups are performing this service and the scales are in their possession. Four out of 9 HUs don't have any medical equipment. Furniture is provided to HCs as incentives for successful CS/DRF programs, high attendance of patients and good relations with the HFC. Initially, the HUs reported good work but after a time their regular attendance dropped off. Supervision and monitoring needs to be consistent and effective.

ASSISTANCE FOR LABORATORY SERVICES IN HHC AND SOME HUs

The HFC of Hais requested funds from the Japanese Embassy to upgrade the laboratory and MCH Center with the support, encouragement and assistance in grant writing from ADRA. This was approved and the center received 2 microscopes, 2 centrifuges, shaker for blood bank, spectrophotometer, an incubator, solutions and reagents, refrigerator, tubes, flasks, racks, furniture, computer and printer, etc. A video player, TV, refrigerator, filing cabinet system for patient files were obtained for the MCH services. Two senior lab technicians are now working at the center.

Suggestions

1. Lab technicians can be used to train other HWs in other HCs and HUs in the three districts as part of the new malaria intervention.

2. Laboratory services should increase at other districts.

COST SHARING AND DRUG REVOLVING FUND

ADRA has tried to reactivate the HUs by establishing a Cost Sharing and Drug Revolving Fund program. The program has been operating since July 1997 and has received funds from the Dutch and British Embassies. The main aim was to establish a program that would provide the HUs and the community they serve with a sustainable supply of essential drugs and to generate an income to meet their needs.

In order for a HU to be an eligible participant in the program, it had to meet all six of the following criteria:

1) Must have a HFC for management
2) Must have at least one active women's group in the area
3) Must achieve an initial 80% immunization coverage
4) Must repair or have a secure HU
5) Must have a plan for maintenance of the HU
6) Must set criteria to identify poor families for exemption

In the three districts, only 11 HFCs fulfilled the conditions. Two HCs and nine HUs were supplied with the essential drugs as follows:

District	Health Facility	Date of Start
Hais	Qulma HU	2 Nov 97
	Al Fash HU	29 Oct 97
	Mahal al Rabea HU	30 Oct 97
	Hais HC	19 Apr 98
	Nafsa HU	10 Nov 98
	Dhamy HU	22 Jul 99
Khokha	Qataba HU	3 Nov 97
Jabal Ras	Qahara HU	28 Aug 98
	Nadaf HU	17 Nov 98
	Mureer HU	12 Apr 99
	Dohra HU	16 Jun 99

A three day workshop was held for the HWs and the HFC members for the purpose of setting up a system for the project and to design a price list of drugs. Other items accomplished included a list of user fees and its management and the design of forms, cards and registers. All 11 HCFs were supplied with the necessary equipment and 7 received microscopes. The HFC members and their HWs were subsequently trained in essential drugs, rational use of drugs and management of drug and financial management.

The aim of this part of the evaluation was to assess the ability of CS/DRF to enhance PHC services at the HU level. It looks at 1) prescription patterns of drugs; 2) utilization rate of the HU services; 3) financial status and management; and 4) obstacles that affect the HU functions.

To find out the prescription patterns of drugs and utilization rate, an observation checklist was employed to observe the patients records. The first 30 patients of the

month of August 99 were chosen from the record for the checklist. To gather information on the financial situation and obstacles of the HU, a questionnaire was devised to interview HWs and financial records were cross-checked with answers given by HWs. Five drugs were randomly selected from the drug list to find out the quantity of drugs sold and the remaining drugs in stock.

The Main Variables of the Study

No.	Variable	Definition
1	No. of Patients	Number of the first 30 patients recorded in August 99
2	No. of Drugs	Quantity of drugs prescribed per patient
3	Injections	Frequency of injections prescribed
4	Antibiotics	Frequency of antibiotics prescribed
5	Correct Dose	Correct dose prescribed by HWs
6	STG Available	Availability of the Standard Treatment Guidelines
7	STG Treatment	Patients are treated according to STG
8	Instruction	Patients are instructed on how drugs should be taken
9	Referral	Patients are referred to higher level of care
10	Price List Compliance	Drugs are sold according to the official price list
11	Drug Fees Separate	Drug fees are separated from user fees
12	Acct Clearance	How often HW clears the acct with the HFC
13	Drugs in stock	Drugs remaining at the HU since the program started

Findings

Prescription patterns of drugs were investigated and these included type of facility visited in the 3 districts, staff interviewed, number of drugs prescribed per patient, number of injections prescribed, rate of antibiotics and the right dose prescribed according to the standard treatment guidelines (STG) and the availability of the STG.

Table 1. Prescription pattern

Health Facility	Staff Title	No. Drugs/ Patient	Inject Presc	Antibiotics Presc	Correct Dose	STG Avail	STG Tx
Qataba HU	MD	1.2	3%	47%	100%	Y	90%
Hais HC	MD	1.6	27%	53%	100%	Y	100%
Nafsa HU	HW	2	3%	80%	100%	Y	67%
Mureer HC	MA	1.4	10%	30%	97%	Y	97%
Dohra HU	HW	1.1	0	33%	100%	N	93%

Table 1 shows that two HUs are run by HWs and one by a physician while one HC run by physician and one by a medical assistant. It was also found that the number of drugs prescribed to each patient is varied between 1.1 and 2 kinds of drugs per patient. Injections are prescribed at HCs more than at HUs. Antibiotics were over prescribed especially at the Nafsa HU. The correct dose was prescribed 100% at most of the HUs except the Mureer HC, which was 97% according to the STG. Only one HU has no STG available, which is Dohra HU. The treatment according to the STG was varied between 67% and 100%.

Utilization Rate - The number of visitors in the last month (August 99) was investigated through the patient register. Staff were asked whether or not they instruct patients on how to use drugs and if and when they refer patients to a higher level of care. Drugs in stock were checked to observe tidiness and organization and also the percentage of remaining drugs to determine how active the HW is in running such a program.

Table 2. Utilization Rate

Health Facility	No. of visitors M	F	Total	Cleanliness	Instruct Patients	Refer Patient	Drugs Tidy	Drug in Stock
Qataba HU	35	19	54	Y	Y	Y	Y	40%
Hais HC	525	754	1279	N	Y	Y	N	90%
Nafsa HU	15	19	34	Y	Y	Y	Y	75%
Mureer HC	61	30	91	Y	Y	Y	Y	80%
Dohra HU	46	62	108	Y	Y	Y	Y	60%

Table 2 shows that the Hais HC has the highest number of visitors. Patients were instructed at all HU on how drugs should be used and referral system is functioning but without official referral forms. Drugs do seem tidy, except at the main HC, and all HUs still have a sufficient quantity of drugs.

Financial Status - There are three sources of income that were checked at each HU: 1) drug fees, 2) user fees and 3) microscope income. Financial records were checked to find out the average income per month, where the money is kept, whether the microscope income and user fees are separated from drug income and how often the HWs clear their account with the HFC. Staff were also asked to present the drug price list and asked about its use.

Table 3. Financial situation

Health Facility	Ave Income/mo (YR)	Drug Fees Separate	Acct Clearance W	M	NR	Income kept at Staff	HFC	BA	Price List Compliance
Qataba HU	17,882	Y		✓		✓	✓		Y
Hais HC	21,264	Y			✓			✓	Y
Nafsa HU	3,764	Y		✓			✓		Y
Mureer HC	12,084	Y		✓			✓		Y
Dohra HU	9,155	NA		✓			✓		Y

Table 3 shows that the Qataba HU has the largest amount of income among the three HUs, about 45% of it was microscope income. Almost all HUs have separate accounts for the user fees and drug income except Dohra HU that has no user fee system. Most of the HUs clear their accounts with the HFCs monthly, while the HHC has no regular system for clearance. They clear it when it is up to 10,000YR. At most of the HFCs the income is deposited with the HFC treasurer except the HHC that has a bank account. However the doctor of Qataba HU keeps part of the money with him as he said that the HFC is not active enough. All HFCs sell drugs according to the official price list. A question was asked on whether the community is being informed about the financial situation of the HU, and if yes, by which means. The answer was YES by all the respondents. The means of information was mainly through social occasions. The HHC also provides the Local Council with reports.

Table 4. *Obstacles Health Facilities Face*

Health Facility	Obstacles
Qataba HU	1) No drug supply by the MoPH since January 99 2) No cold chain equipment and supplies such as cards and forms 3) HU should be considered as a HC because it has a doctor
Hais HC	1) Drugs for revolving fund was not sufficient to meet HC needs. 2) The program is not encouraged enough by the doctors.
Nafsa HU	1) No cold chain equipment, water, transport, electric supply and incentives.
Mureer HC	1) No cold chain equipment and transport. 2) Lack of cadre such as doctor and midwife.
Dohra HU	1) No building, equipment, murshidaat (female HW). 2) No user fee system.

Lack of equipment and cold chain were mostly mentioned by the respondents. The Dohra HU is functioning in old wooden rooms and in 3 separates places.

4. Sustainability Strategy

For the most part, institutional and financial sustainability goals and objectives articulated by the DIP are well on their way to being met. Health facility committees have been established and functioning with support. Community health workers in women's groups and teachers of schools are actively participating in promoting good health and prevention issues. Women and their families are being influenced positively as mothers learn how to care for them in ways that will continue to impact their lives for a long time to come. Learning through health-related literacy courses is sustainable knowledge that these women take with them into the future. The cost recovery and drug revolving system has been introduced with the participation of HFCs. Installation of the HIS remains one of the major objectives unmet by the project. Programmitc objectives related more to the functions of the MoPH (HCs and HUs) and their abilities to operate independently of ADRA. As noted before, this has not been achieved, although the project has made various attempts to meet this challenge. The solution remains to be found. ADRA's latest attempt has been the inauguration of the community midwife training program. The women being trained will eventually staff the HUs or be very active in their communities where HWs have been negligent. On the positive side, ADRA's experience in integrating health, agriculture, education and cost sharing/drug revolving fund activities and its abilitiy to achieve results in a cost-effective way has had a profound effect on the design of the local NGO.

The phase-over plan of the DIP indicated that the HHC would assume many of the responsibilities for the administration of preventive health care services at the end of the project. They have not yet reached the capacity to do this efficiently and independently, although they have come a long way since the beginning. With the development of the local NGO, it is most likely that there will be a strong coordination between these two entities and clear roles will be outlined. For example, the NGO may have the responsibility of organizing continuing technical and management assistance for the HHC.

All of these activities will have impacts that are sustainable whether or not they continue to be implemented in the same way they were initially. To leave a community with the ability to initiate activities that continue to enhance these areas is to have sustainability.

E. PROGRAM MANAGEMENT

1. Planning

In the very initial stages of the project when the DIP session was held, it was reportedly as participatory as possible. Since then, weekly and monthly staff meetings have regular and normal proceedings for office and project staff. The various projects usually sat together to schedule logistics, review activities, analyze approaches, change courses, etc. Occasionally, the project director would conduct quarterly planning meetings as well.

The DIP process may have been strengthened by the inclusion of overall strategic planning (mission statements, purpose, etc.). As it happened, the strategic planning took place a year and a half into the program and was in effect never officially completed. However, the staff appreciated the transparency and visibility of the process. One of the gaps in the DIP was the issue of human resource development. ADRA/Yemen began with a team that knew virtually nothing about community development. This was resolved through funding from other projects and other innovative means discussed in other sections of this document.

2. Staff Training

If there is one area that the ADRA CS project has excelled in, it is in the development of its staff. When ADRA began, almost no one had public health and/or development skills. It began work in an area where possessors of laptop computers were suspected of being spies. Since then, computing skills have increased dramatically for almost all the staff. All staff received training in community development from the beginning that lay the foundation for the project, although at that time, it was all quite vague in their minds. ADRA has done its best to encourage and support its staff to attend workshops, seminars, conferences and formal trainings in the areas that they were interested in and related to their work with ADRA.

A few testimonies of the staff reveal the impact ADRA has had in this area. The Training Coordinator testifies that he came lost, not knowing what was expected of him, even though he had been employed with the Health Manpower Institute for a number of years. He stated having learnt many valuable lessons, including personal discipline, organization, the need for patience for obstacles and constraints in order to be an effective community mobilizer. He developed discussion skills and how to elaborate and exchange ideas; gained a greater respect for others who have differing opinions; learned not to neglect weaknesses but to use them as tools to encourage growth. The Project Director of CS/DRF knew very little about drug revolving funds, but his learning curve went straight up as the project began to take shape and action with mentoring

from other project directors. The MoH Coordinator had no experience in public health except in his profession as a clinical practitioner; he especially had no management skills or knew how to deal with the attitudes of people. By watching ADRA staff and how they solve personnel issues, he learned many valuable ways in which issues can be resolved. He claims to still have weaknesses in management and is still learning how to deal with 36 HWs and problem solving. Almost all of the girls employed or doing volunteer work have gained a completely different perspective on life. They now know that they, as women, have a very important role to play in educating their communities and empowering them to have the abilities to make choices for their lives and those of their families. There are many more individual stories of success that can be told.

Although not every staff member received formal training in their areas of work, their achievements in the project reveal that they have gained a lot from observation, informal training, group discussions, apprenticeship and by doing. Their new skills are being applied to their environment and is evidenced in the way they conduct their individual duties and in the impact of their work. Project directors notice the staff beginning to use the development philosophy in all activities and in their personal lives, but staff feel they still have a need for refinement. Some felt that they have particular needs in report and proposal writing.

ADRA should attempt to locate and identify other sources for scholarships and grants to increase staff opportunities for further or continued education.

3. Supervision of Program Staff

Annual staff evaluations were helpful for the staff when it occurred. The process utilized by the management was a combination of supervisor and self-evaluation. The supervisor filled out a form listing the team member's duties for that particular time period, giving feedback on the achievements and way in which it had been conducted. The team member would fill out an identical form as a self-evaluation. An interview then took place between the relevant parties to compare comments, make recommendations and commend as appropriate.

One staff said that it was a gentle and effective way of dealing with weaknesses. Some staff felt that is was difficult to evaluate oneself, but that it forced them to create a vision for themselves. They also felt it to be a realistic approach and not pessimistic or exaggerated.

The community development section has just developed a new form to be completed on a periodic basis to evaluate the work of the facilitators. Its effectiveness has not yet been determined.

4. Human Resources and Staff Management

Team work is the most important value for all of the ADRA staff. Negative things affecting an individual will affect all. There are often differences of opinion but usually not against each other as persons. When mistakes are made, the staff do know to whom and when they should bring problems to be discussed. Administration does help

solve problems and increases the likelihood of transparency. They encourage frank conversations. Staff felt that it was good.

Some policies and procedures may need to be reviewed. Delegation of tasks and job descriptions need to be revised and clarified. Staff have learned that confrontation doesn't always have to have negative outcomes. When it is done appropriately, it can be useful in solving problems. Recently they had their first major internal conflict that began to affect their work. It was finally taken up by the leadership in an open meeting with all the staff present and apparently resolved. The team seems to truly appreciate this type of system.

5. Financial Management

On review of the financial system, the evaluation team was satisfied that the NGO partner was clearly documenting expenses and income in accordance with Generally Accepted Accounting Practices (GAAP) standards. The accounting program used clearly indicates expenses by who the source of the funds was. In other words, federal expenditures are clearly separated from PVO/NGO expenditures. There are seperate bank accounts used for all projects.

The actual posting and accounting of the project is being done at the country office, with the project using a petty cash system. This allows a higher standard of bookkeeping for logistic and personnel reasons than might be available at the project site.

In interviews with project administration, there was some frustration expressed because not enough information on budget control and pipelines was felt to have been provided the project administrator. This was also expressed by the project coordinator for the project area. This problem did demonstrate itself in the fact that some of the working budget lines were overspent, while other lines were well underspent and this problem was not addressed until very late in the project.

The evaluation team noted that although the budgeting skills and abilities of the project partner staff appeared to be sufficient, especially with the formation of the new NGO, the actual project expenditures could have been better handled with more involvement from the project administration.

On talking with the accountant/bookkeeper, it was clear that she was capable of handling the different accounts and processes, and the problem of non-sufficient information being given to the project staff was a lack of communication between the project staff and the country office. Apparently the bookkeeper never had been trained or requested to present financial status reports to the project staff. This of course will not be the case in the new CS-15 Project.

As the new country director has financial training, his oversight will also insure that the financial expense reports are understood and acted on by the project administration.

Local funding for the WID projects are supported by the district government. As such they are expected to continue into the new project, and may even expand. With the emphasis on the development of the local NGO, it is expected that activities of the project will be able to continue even after the CS-XV funding ends.

6. Logistics

The budget line item for maintenance and repairs of vehicles was insufficient for this project. Vehicles and transportation are completely insufficient to cover all the activities. Recently one of the ADRA vehicles was stolen leaving one vehicle for five projects to coordinate with—impossible. There needs to be a better transport system in place to avoid too many internal conflicts from erupting.

7. Information Management

Planning and monitoring objectives are done in an informal way during weekly and monthly staff meetings. Other than that, information management is not a strength of this project. There are detailed immunization forms that HWs are responsible for turning in on a monthly basis. They have been doing this regularly when they come in to receive their salaries.

Staff are sufficiently skilled to carry out collection of program data, but they need more resources, specifically a system and logistics to make it happen. There have been several attempts with the supervision plan and the CS/DRF but neither one have been successful in overcoming irregular work of the HWs and no other system has been adapted to fit the situation. The CS/DRF has been able to integrate forms that are used to order new drugs for HUs and request refresher training. The director uses these forms to also determine utilization of the HU services and how well the HU is coordinating with the HFC.

Program staff, community leaders and other organizations have been kept moderately informed of how ADRA operates and probably have a good understanding of their approach. However, it is felt that the communities in general, are still lacking an understanding of community participation and of all the activities ADRA is making available to them.

8. Technical and Administrative Support

The project has received technical and administrative assistance from ADRA/Headquarters (HQ) and the ADRA Regional office in Cyprus. The best support from ADRA/HQ has been that of accounting and evaluation, including DIP support. This came in the form of visits from the project's backstop staff. The project staff indicated that the support mostly came during the beginning stages of the project and they would could have benefited from more frequent routine general visits to pick up weaknesses prior to the final evaluation.

The CS Director and MoPH Coordinator also benefited technically from field visits they made to a USAID funded project in Bangladesh. Other external technical expertise was received from the Dutch Embassy, the British Consulate and the German Development

Organization (GTZ) in regards to the CS/DRF project and from ADRA/Canada and the MoPH/Yemen in regards to the Community Midwifery Training Program.

More assistance is desired for the training of trainers in CS community activities and for the development of guidelines for a regular monitoring system.

9. Management Lessons Learned

a) ADRA has learned that it needs to engage the community directly in other ways than just through the women's groups. This includes working with local community development committees and other entitities in addition to women's groups. The strategies should ensure sustainability by the local NGO, HHC, women's groups and HFCs. Perhaps the support of a health education department within the HHC or the local NGO could be a major avenue for achieving this.

b) ADRA recognizes the great importance of the HHC and desirability of its being up-graded to a rural hospital but ADRA's experience is that emphasis on programs in the HHC do not necessarily translate into health improvements and community development in the rural areas surrounding the HHC. In other words, community development occurs as the result of direct assistance to local health committees and women's groups more than drom direct assistance to the HHC.

c) ADRA recognizes the importance of building strong ties with the MoPH offices at all levels for the purpose of good working relationships, dissemination of project activities, needs and achievements and its influence in the design of national health sector reform.

d) It seems that the Health Sector Reform calls for one District Health Management Team for all 3 districts (pop of 100,000), but ADRA tends to believe that this scheme will be inadequate for reaching the populace. The recommendation for collaboration with the Distric Health Management Team (DHMT) should suggest that it start with the team in Hais. Secondly, the establishment of 2 more DHMTs for the other districts should be based on that experience. The complete experience can be used as a model for national implications. ADRA should work closely with the MoPH and comply with a coordinated plan.

e) ADRA has put strong emphasis on training but probably not enough emphasis on evaluation of the training. Training does not by itself necessarily translate into behavior change or health improvement. ADRA has learned that greater emphasis needs to be placed on evaluation of the impact of training.

f) The project is suffering the consequences of an inadequate monitoring and health information system. ADRA will strive to remedy the deficiency by researching this topic to integrate an innovative and practical system.

g) The project has been successful in integrating the various components other than CS, but is in need of careful analysis of the strengths and weaknesses of the CS/DRF Program as it relates to the CS project.

F. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The ADRA project has built a sound community-based foundation. It's DIP, goals, objectives and strategies were rational and appropriate for the project area. The project components and management processes were based on results of the baseline survey, formative research and the participation of the local communities.

The chosen CS interventions and community development components have met the priority felt needs and demands of the local communities. The additional supplementary health activities, such as the CS/DRF, WL/SED, Vitamin A, laboratory services and supervision system have also empowered the implementation of ADRA's project components.

Capacity building of the local management that developed over the life of the project was one of the major objectives achieved. It helped to activate community mobilization and involvement and increases the likelihood of sustainability for the various intervention components.

The ADRA team, to ensure the effectiveness and sustainability of the implemented interventions succeeded in carrying out the following activities:

1) An effective approach for community mobilization, participation and involvement through women's groups, LDCs and community workers. Such community entities can be replicated.
2) An extensive training program component designed and executed to establish a firm foundation for local communities and health manpower development.
3) Reviving the existing HFs and strengthening supervision activities and services of the HFs have increased accessibility to their beneficiaries. The project was also able to broaden PHCS to reach beneficiaries beyond the HU by introducing interventions, such as CDD and nutrition, at the household level.

Recommendations

Following the interpretation and discussion of the final evaluation, the members of the evaluation team conclude with the following recommendations alongside those mentioned after each analysis of the three interventions. The evaluation team is hoping that the implementation of these recommendations will serve the on-going activities of ADRA. They can also be applied to the proposed interventions of the new project.

1) Immediate adoption, formation and organization of the DHMT body

Reasons: The final evaluation team has recognized that the ADRA project has succeeded in building up the local management capacity of the community. In the mean

time, there are no official organizational and programmatic links between the project administration and the MoPH authorities at the various levels. This is simply because there is no formal local health authority at the district level.

Specific Recommendations:

a) The DHMT should share in the responsibility of the organizational, monitoring and assessment functions of the day-to-day activities of the various aspects of PHCS delivery.
b) The DHMT should collaborate and cooperate with the project staff and facilitate the implementation of the current and new project components along the line of the DHS model strategy adopted by the MoPH as stated in the Health Sector Reform document.
c) The DHMT should help to enhance the integration of the project components with HFs.
d) The DHMT should help to sustain the components developed by the project such as local management, capacity building, local health manpower development and the inter-sectoral collaboration for the benefit of the health of the people and health related issues.

2) Maintain the impact of the outcomes and the sustainability of health services achieved by the project.

Reason: The members of the evaluation team have concluded that the ADRA project has made significant progress and used innovative approaches in the areas of community mobilization and involvement by building the capacity of the local management, instigating the health manpower development training and using a multi-donor fundraising approach. Such achievements must be maintained.

Specific Recommendations:

a) ADRA should intensify its collaboration, with support of the MoPH and local community entities, to attract the assistance of larger donor agencies to assure continuing development of its new approaches and intiatives.
b) Continue training programs for females HWs and formation of community groups of men and women to enhance health and community development.
c) Continue integration and collaboration of various types of projects.
d) Collaborate with the local leadership.

3) Strengthen and upgrade the amount and quality of PHCSs provided by the district health centers with support and assistance from the MoPH.

Reasons: During the field visits made to assess the PHCSs, the evaluation team found that quantitative and qualitative aspects of these services were inadequate. The health management was poor, the number of qualified HWs were few, their technical skills and performance was weak and inadequate to qualify the health centers to be supportive, supervising and referral health institutions.

Specific Recommendations for the HHC:

a) Expansion of the current limited MCH/FP services. The HHC should work as a demonstration and training center for the HWs and volunteer vaccinators.

b) Additional basic and emergency services should be provided by the HHC. This should include minor surgeries, normal and complicated deliveries inclusive of in-patient care for these patients.
c) Support and strengthen the basic elements of management, performance and skills of the members of the proposed DHMT in order to coordinate HIS, logistics and supervisory reporting systems.
d) Support the existing health personnel in the HHC by adding a Pediatrics Medical Officer, obstetrician/gynaecologist and senior midwife.
e) Monitor the cold chain and perform maintenance of the vaccine supply depot immediately when required.

Specific Recommendations for other district HCs:

a) Strengthen and support the HCs with the following staff: medical officer, assistant lab and pharmacy technicians, experienced community midwife or family practice nurse.
b) Guide the HCs to include the intervention components (EPI, CDD, nutrition, GM, health education, MCH, FP and CS/DRF) that already exist in the HHC. This will increase the accessibility of PHCSs and development components for the local community.
c) Strengthen and support the management capacity, logistics and supervision systems of these health centers.

4) Joint action plan and organizational collaboration between the ADRA project staff and the MoPH authorities at the governorate and central levels should be worked out and implemented.

Reasons: Currently the responsibilities or mandates and functions of the MoPH authorities are not clear and/or very weak at the district level. There are also no programmatic or organizational links with the ADRA project administration or its activities.

Specific Recommendations:

a) Action plan should include phaseover plans to help sustain the positive impact of project components. This may also help to overcome constraints of some of the components such as EPI coverage, GM and CS/DRF.
b) Action plan should help to allocate the necessary operational costs that are badly needed by the MoPH for each health facility.
c) Action plan should focus on strengthening the areas of weakness in supervision, monitoring, surveillance, logistics, HIS and reporting systems.

5) The ADRA project should negotiate with the MoPH to formally be recognized as the "DHS model" and/or area for demonstration of the Health Sector Reform components and strategies.

Reasons: The evaluation team has found that the project activities and outcomes could be used for demonstration purposes for implementing the DHS model nationally.

Specific Recommendations:

a) Implementation of the strategy of community mobilization, participation, involvement in co-financing, planning, programming and managing the

community-based activities and the local community development of health and social welfare.

b) Implementation of the inter-sectoral collaboration strategy for the benefit of local management capacity building and local human resources development.
c) Implementation of the various aspects of the decentralization strategy of the Health Sector Reform (HSR) at the district level. This means that priority community felt needs and demands will be integrated in an appropriate and efficient manner.

6) Assure expansion and sustainability of general and specific activities carried out by women's groups, LDCs and HCs.

Reason: Remote areas are still not completely covered by the ADRA project activities.
Specific Recommendations: For a successful, low cost and effective implementation of the proposed interventions and to maintain the positive impact of those already implemented, it is recommended that ADRA support the activities of the local community entities through the following approaches and actions:

a) Extend the activities of the community entities into new areas (specifically Jabal Ras) by:
   - Increasing the number of women's groups to 120 by the Year 2002.
   - Increasing the number of LDCs to 30 by the Year 2002.
   - Establish health subcommittees to be representatives of villages in remote areas. Such subcommittees should be linked with their closest HFC for coordination and systematic ways of serving the interests of their communities.
b) Continue the moral and material support of financial, organizational and managerial activities, which at present, are carried out by women's groups and HFCs.
c) Maintain the strong training program and add new elements that help to build the skills and performance of both men and women's groups.

7) Maintain the implementation of the various project components as a function of the district health system. This can be achieved by the continuous support and assistance of the positive impact of the on-going activities and will enhance the implementation of new ones (i.e., MCH/FP, malaria control and ALRI).

Reasons: Mothers and children in the Yemeni rural areas form nearly 70% of the total population. Most of the diseases of women and children not only cause high mortality and morbidity rates in the rural areas, but also leave permanent "scars" i.e., disabilities and handicaps that result in human suffering, high expenses, time, money and rehabilitation. Children under 2 years of age account for more than 50% of the total deaths. Communties are not in a position to articulate their real or felt needs. They should receive special consideration and more attention.
Specific Recommendations:

a) The ADRA project has to pay due consideration to the integral approach of the various project components (MCH, FP and community development).
   i. integration with the existing DHS infrastructure i.e. HCs and HUs.

ii. promote maternal health (by nutrition and PHCSs) and improve the environmental and social factors related to family health.
iii. provide PHCSs to pregnant women "who are not able to come" by providing community-based care

b) Create a system for maternal care and close and regular supervision of pregnant women to detect the high risk factors during pregnancy and prevent their harmful effects as early as possible.
c) Increase the immunization coverage. This will maximize the impact immunity has on infants and young children, lowering the incidence rate of both diarrheal disease and ALRI among the target population.
d) Parental responsibilities must be encouraged and sustained as one of the chief aims of mother and child health.
e) A DIP that lays the foundation for integration and effective management of the new components in both curative and preventive aspects is needed. This will make these approaches easier to implement from the beginning so that roles and responsibilities are clear for all parties concerned (ADRA, local NGO, DHMT, etc.)
f) It is important to integrate both the family planning and the new additional components (MNC, malaria and ALRI) into the HIS and community development components. In other words, all these components should "permeate" the PHC system at the district level.

8) Improve the HIS utilized by the project and coordinated activities of the DHS.

Reason: Health facilities are unable to present accurate information on the activities performed by their institutions.

Specific Recommendations:

a) Development of the District HIS should be part of the proposed joint working plan of action. It is also necessary to make it part of the periodic assessments of the district health personnel.
b) The current HIS should be subjected to a critical review to make it simple, effective and efficient at the district level. The HIS should then become an essential function of the proposed DHS adopted by the HSR.
c) The HIS should be an essential component of the training program curriculum of the 'local training center'.

APPENDIX A: Evaluation Team and Schedule

APPENDIX B: CV of Evaluation Team Leader

APPENDIX C: Scope of Work

APPENDIX D: Field Visit Schedule

APPENDIX E: Project Area Map

APPENDIX F: End of Project Survey Report

APPENDIX G: Trainings Implemented from 1996-99